approached the intersection the system would still determine the proper order of vehicle progression and restrict the vehicles accordingly.

Another situation with high potential for vehicle-to-pedestrian collision is the left turn of a vehicle off a main street and through a pedestrian crossing. The depiction and explanation of FIG. **5** are also applicable to this scenario because both situations represent an operator with a limited view of or attention to a pedestrian as the vehicle and the pedestrian proceed toward the same intersection.

The configuration of FIG. **10** will also prevent collisions if a vehicle enters a one-way street in the wrong direction. Trigger Sensors would detect the vehicle at the beginning of the one-way entrance and invoke the Controller to deploy Vehicle Restrictors to the wayward vehicle with accompanying displays (System Status Alarm) to indicate that the operator is traveling in the wrong direction. Vehicle Restrictors and System Status Alarms indicating the approach of the wayward vehicle would also be deployed to vehicles travelling in the proper direction to slow them down and also give them forewarning.

The primary depicted use of the Conditional Control was to cancel or complete the preliminary output responses of the system. However, FIG. **11** demonstrates that a Secondary Conditional Control **42** can also be used to alter an operational parameter based on environmental conditions such as rain or fog. For example, road moisture or reduced visibility will increase the baseline time that determines the safe traveling distance between vehicles. This type of input allows the Collision Avoidance System to automatically adjust to changes in weather conditions that will demand changes in driving behavior in order or to prevent collisions. Vehicle speed on a wet road is a typical example. The speed limit could be automatically lowered when the road becomes wet but automatically returned to the baseline speed limit as the road dried. Speed limit displays would keep the operators informed of the current speed limit, Vehicle Restrictors would reinforce the changes, and the Reporting Control would inform authorities of the changes that were made as well as report any violations. Thus it is to be understood that use of a Conditional Control input to monitor environmental changes (such as precipitation) that could affect driving conditions and adjust system responses accordingly are also applicable to previous depictions of the Collision Avoidance System.

Regardless of the traffic scenario, the mission of the Collision Avoidance System is to prevent collisions through actions comprising: monitoring the environment according to the traffic laws or safety concerns, providing notification to the operator regarding the actions to prevent a collision, impeding the proper vehicles in an effort to prevent the collision, documenting and reporting to authorities any failure to heed to those traffic laws or safety concerns. It is to be understood that the present invention is not limited to any of the embodiments described above, but encompasses any and all embodiments within the scope of the following claims.

What I claim as my invention is:

1. A collision avoidance system, comprising:

a) a plurality of vehicle trigger sensors each associated with a roadway, each said vehicle trigger sensor capable of sensing at least one parameter of one or more vehicles;

b) a plurality of vehicle restrictors each associated with said roadway, each said restrictor comprising an elongate member disposed generally transverse to said roadway, each said restrictor capable of being actuated to raise or lower relative to said roadway surface to impede passage thereover of said vehicles; and

c) a controller programmed to determine the likelihood of a collision between any of said vehicles based on said vehicle parameters received from said trigger sensors, programmed to determine which of a selected one or more of said vehicles should be slowed or stopped to avoid said collision based on said vehicle parameters and based on local traffic laws, and programmed to determine at least one selected vehicle restrictor that is being approached by said selected vehicle, wherein said at least one selected vehicle restrictor is actuated by communication from said controller to impede the passage of said selected vehicle to avoid said collision.

2. The collision avoidance system of claim **1**, wherein said at least one vehicle parameter is selected from the group consisting of vehicle presence, position, direction, or speed.

3. The collision avoidance system of claim **1**, wherein said at least one trigger sensor is selected from the group consisting of radar devices, lasers, optical devices, ultrasonic devices, induction loop devices, wireless transmitters and receivers, pressure-responsive switches, and combinations thereof.

4. The collision avoidance system of claim **1**, wherein said at least one trigger sensor comprises an environmental sensor to indicate roadway moisture or sight visibility.

5. The collision avoidance system of claim **4**, wherein said controller is programmed to determine said likelihood of said collision further based on roadway surface friction loss due to moisture or sight visibility loss due to moisture as communicated to said controller from said environmental sensor.

6. The collision avoidance system of claim **1**, wherein said at least one trigger sensor is mounted on a generally vertical post adjacent said roadway or on a generally horizontal arm supported above said roadway.

7. The collision avoidance system of claim **1**, further comprising a Boss control that receives said vehicle parameter comprising the speed of said selected vehicle and that determines an amount of raising or lowering of the selected vehicle restrictor which amount is selected to be sufficient to slow or stop the vehicle to avoid said collision.

8. The collision avoidance system of claim **1**, further comprising a monitoring device associated with said roadway and in real time communication with emergency law enforcement, medical, or fire department personnel.

9. The collision avoidance system of claim **8**, wherein said at least one monitoring device comprises a camera.

10. The collision avoidance system of claim **1**, further comprising an emergency vehicle pass-through control that deactivates the actuation of the vehicle restrictors in response to a communication from an emergency law enforcement, medical, or fire department vehicle.

11. The collision avoidance system of claim **1**, further comprising:

a) a plurality of pedestrian trigger sensors each associated with said roadway, each said pedestrian trigger sensor capable of sensing at least one parameter of one or more pedestrians;

b) at least one alarm associated with said roadway to alert operators of said vehicles of an approaching pedestrian to avoid collision; and

c) said controller programmed to determine the likelihood of a collision between said pedestrian and any of said vehicles, and to select and activate said alarm and to select and activate said selected vehicle restrictor immediately in the path of said selected vehicle.

12. The collision avoidance system of claim 11, wherein said pedestrian parameters comprise the presence, position, speed, or direction of the sensed pedestrian.

13. The collision avoidance system of claim 11, wherein at least one alarm associated with said roadway alerts said pedestrians of an approaching vehicle to avoid collision.

14. The collision avoidance system of claim 1, further comprising:

a) a plurality of train trigger sensors each associated with said roadway, each said train trigger sensor capable of sensing at least one parameter of one or more trains;

b) a plurality of alarms associated with said roadway to alert operators of said vehicles of an approaching train to avoid collision; and

c) said controller programmed to determine the likelihood of a collision between said train and any of said vehicles, and to select and activate said alarm and to select and activate said selected vehicle restrictor immediately in the path of said selected vehicle.

15. The collision avoidance system of claim 14, wherein said train parameters comprise the presence, position, speed, or direction of the sensed train.

16. A method for collision avoidance, comprising:

a) sensing parameters of a plurality of vehicles;

b) determining the likelihood of a collision involving any of said vehicles based on said vehicle parameters;

c) determining which of a selected one or more of said vehicles should be slowed or stopped to avoid said collision based on said vehicle parameters and local traffic laws;

d) determining at least one selected vehicle restrictor, of a plurality of vehicle restrictors in a roadway, that is being approached by said selected vehicle based on said vehicle parameters and said vehicle restrictor locations; and

e) actuating said selected vehicle restrictor to control the parameters of said selected vehicle to avoid said collision.

17. The collision avoidance method of claim 16, wherein said vehicle parameters comprise the presence, position, speed, or direction of the sensed vehicle.

18. The collision avoidance method of claim 16, further comprising:

a) sensing parameters of at least one pedestrian;

b) determining the likelihood of a collision between said pedestrian and any of said vehicles; and

c) actuating at least one alarm to alert an operator of said vehicle of said approaching vehicle to avoid such a collision.

19. The collision avoidance method of claim 18, wherein said pedestrian parameters comprise the presence, position, speed, or direction of the sensed pedestrian.

20. The collision avoidance method of claim 16, further comprising:

a) sensing parameters of at least one train;

b) determining the likelihood of a collision between said train and any of said vehicles;

c) actuating vehicle restrictors in a roadway to control the parameters of said vehicle to be slowed or stopped to avoid said collision; and

d) actuating at least one alarm to alert an operator of said vehicle of said approaching train to avoid such a collision.

21. The collision avoidance method of claim 20, wherein said train parameters comprise the presence, position, speed, or direction of the sensed train.

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